## Claims

1. A method for producing a preform from synthetic quartz glass by means of a plasma-assisted deposition method in that a hydrogen-free media flow containing a glass starting material and a carrier gas is supplied to a multi-nozzle deposition burner, the glass starting material is introduced by means of the deposition burner into a plasma zone and is oxidized therein while forming $SiO_2$ particles, and the $SiO_2$ particles are deposited on a deposition surface while being directly vitrified, characterized in that the media flow is focused by means of the deposition burner (1) towards the plasma zone (4).

2. The method according to claim 1, characterized in that the media flow is focused onto the plasma zone (4) by means of a media nozzle (7) of the deposition burner (1) that is tapering towards the plasma zone (4).

3. The method according to claim 2, characterized in that when exiting from the media nozzle (7) the media flow is enveloped by an oxygen-containing working gas flow.

4. The method according to claim 3, characterized in that the working gas flow turbulently exits from a first working gas nozzle (14) of the deposition burner (1) that is designed as a diffuser.

5. The method according to claim 3 or 4, characterized in that when exiting from the working gas nozzle (14) the working gas flow is enveloped by at least one oxygen-containing separating gas flow exiting from an annular gap nozzle (17) coaxially surrounding the working gas nozzle (14).

6. The method according to any one of claims 3 to 5, characterized in that the plasma zone (4) is produced by means of high-frequency excitation (3) inside a burner tube (2) into which a mixture of media flow and working gas flow is introduced.

7. The method according to any one of the preceding claims, characterized in that the media flow contains silicon tetrachloride ($SiCl_4$) and nitrogen as the carrier gas.

8. The method according to any one of the preceding claims, characterized in that the glass starting material contains a fluorine-containing component.

9. A device for performing the method according to any one of claims 1 to 7, comprising an excitation source for producing a plasma zone, and a multi-nozzle deposition burner which has a central axis and which is provided with a media nozzle for the supply of a media flow to the plasma zone, characterized in that the media nozzle (7) is configured to focus towards the plasma zone (4).

10. The device according to claim 9, characterized in that the media nozzle (7) tapers in a tapering area (6) towards the plasma zone (4).

11. The device according to claim 10, characterized in that the tapering area (6) has a length of at least 5 mm, preferably at least 8 mm.

12. The device according to any one of the preceding claims 9 to 11, characterized in that the media nozzle (7) has a nozzle opening with a diameter ranging between 4.5 mm and 6.5 mm, preferably between 5.0 mm and 6.0 mm.

13. The device according to any one of claims 9 to 12, characterized in that the media nozzle (7) is designed as a central middle nozzle and is coaxially surrounded by a working gas nozzle (14) in the form of an annular gap which is designed as a diffuser and continuously expands in an expansion area towards the plasma zone (4).

14. The device according to claim 13, characterized in that the expansion area has a length of at least 5 mm, preferably at least 8 mm.

15. The device according to any one of claims 12 to 14, characterized in that the media nozzle (7) has a nozzle opening which extends in a first nozzle plane extending in a direction perpendicular to the central axis (9), and that the working gas nozzle (14) has a nozzle opening which extends in a second nozzle plane extending in a direction perpendicular to the central axis, the first nozzle plane, when viewed in the direction of flow, being arranged upstream of the second nozzle plane by a length between 5 mm and 35 mm, preferably between 13 mm and 33 mm.

16. The device according to any one of the preceding device claims, characterized in that the media nozzle (7) is formed by a quartz glass tube.

17. The device according to any one of the preceding device claims, characterized in that the media nozzle (7) is designed as a central middle nozzle and is coaxially surrounded by at least two annular gap nozzles (14; 17) for the supply of oxygen to the plasma zone (4).